

REMARKS

Reconsideration is respectfully requested. Claims 1-23 are present in the application. Claims 8-23 are withdrawn, as directed to non-elected invention. Claims 1-5 are amended herein.

Claims 1 and 5-7 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Sugahara (JP 09-007591) in view of Hayashida (US 2001/0041292) and Katou (JP 2003-309327). Applicants respectfully traverse.

Claims 2-4 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Sugahara (JP 09-007591) in view of Hayashida (US 2001/0041292) and Katou (JP 2003-309327) and further in view of Okada (JP 2002-256301). Applicants respectfully traverse.

Support for the amendment to claim 1 is found, for example, at page 31, line 8 and following, of the specification.

The rejected claims are not obvious over the cited combination, since unanticipated advantageous effects can be obtained.

(1)

An important feature of claim 1 of the present invention is that a layer that contains more nickel than a matrix component does [hereinafter referred to as the Ni layer] is located on a

surface of a crack, and the Ni layer is formed by treatment of a hydrogen storing alloy particle with an alkaline aqueous solution. Because of this the Ni layer on a surface of a crack includes an element originated from a hydrogen storing alloy particle.

(2)

None of the cited references describe that the above Ni layer exists on a surface of a crack.

(3)

The above feature demonstrates an advantageous effect of significantly improving high rate discharge performance. This advantageous effect cannot be anticipated and would not be apparent to one skilled in the art. Reasons that the above advantageous effect cannot be anticipated are as follows:

i) As shown in Table 1 (page 38 of the specification), high rate discharge performance of the battery in the example is more than 20 times as high as those of the comparative example 1. The degree of this improvement is extremely high, therefore the advantageous effect cannot be anticipated.

ii) The above advantageous effect cannot be obtained by Katou, and Katou does not teach that this advantageous effect can be obtained. A covering layer containing nickel in Katou is formed by plating. Even when this layer is provided on a surface of a crack, high rate discharge performance is hardly improved. This is because a nickel layer formed by plating hardly

functions as a pathway for a hydrogen atom. A hydrogen atom can move on a surface of plated nickel, but not in the inside of it. In contrast, a hydrogen atom can move through the inside of the Ni layer formed by alkaline treatment. For this reason, the Ni layer functions as an excellent pathway. Since movement of a hydrogen atom from the inside to a surface of alloy is facilitated, high rate discharge performance is improved. A hydrogen atom can move through the inside of the Ni layer because composition of the Ni layer can store hydrogen. This is a phenomenon peculiar to alkaline treatment that allows the above composition to be obtained. Since Katou does not even describe the existence of this phenomenon, it is clear that Katou does not teach or suggest the above advantageous effect,

Further, the rejected claims are not obvious since the cited reference Katou teaches an opposite object.

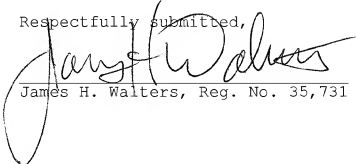
According to the description of Katou, an object of providing nickel plating on a crack is protection against exposure to electrolyte. For this reason, a person skilled in the art would acknowledge that a closely-packed layer that does not allow electrolyte to pass through is appropriate as the "covering layer containing nickel" in Katou. Since the Ni layer formed by using an alkaline aqueous solution has a porous structure, a person skilled in the art would never employ a treatment with an alkaline aqueous solution when providing nickel or nickel alloy on a crack of Katou.

Because of the above noted reasons, the combination of references cited in the office action would not render the claims obvious, as they neither teach nor suggest what applicants claim, whether the references are considered alone or when they are combined.

In light of the above noted amendments and remarks, this application is believed in condition for allowance and notice thereof is respectfully solicited. The Examiner is asked to contact applicant's attorney at 503-224-0115 if there are any questions.

It is believed that no further fees are due with this filing or that the required fees are being submitted herewith. However, if additional fees are required to keep the application pending, please charge deposit account 503036. If fee refund is owed, please refund to deposit account 503036.

Respectfully submitted,

  
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